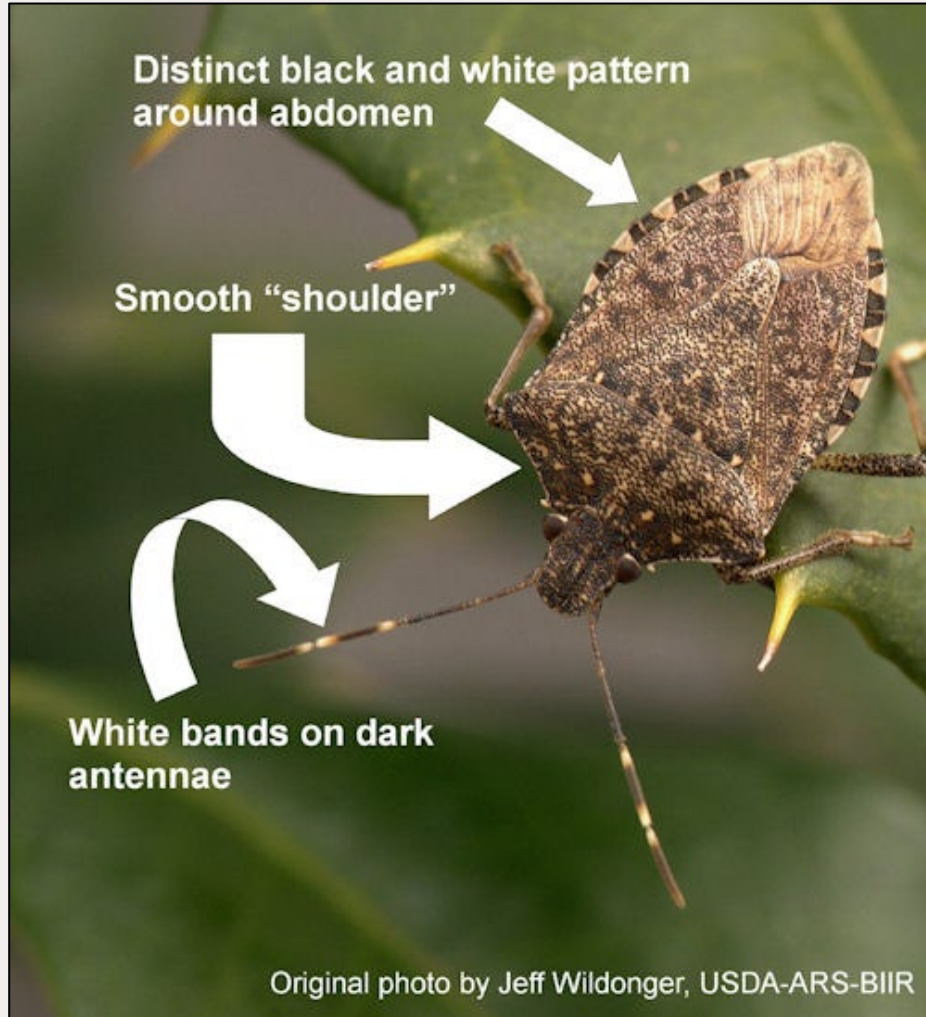


# **Brown Marmorated Stink Bug:** **statewide monitoring and apple damage assessments**

Janet van Zoeren, Lake Ontario Fruit



# Identification



- Mottled brown to grey
- $\frac{1}{2}$ - $\frac{3}{4}$ " long
- Legs and antennae are brown with faint white bands
- 'if it's in your house, it's bmsb'

# Background – BMSB in New York

- Invasive, first recorded in NY in 2007
- Worst damage historically in Hudson Valley

In 2019 – ‘they show up, but I don’t need to spray for them’

Vs In 2022 – ‘wow, I’m seeing a lot of stink bug damage in some blocks/varieties’

**1. Is BMSB driving insecticide application(s) in NY?**

**(Should it be?)**

**2. How are our growers deciding when / if to spray for it?**

**(Can we improve threshold/timing recs?)**

Objective 1:

How much damage might we see in NY orchards?

Objective 2:

Do monitoring traps reflect damage potential?

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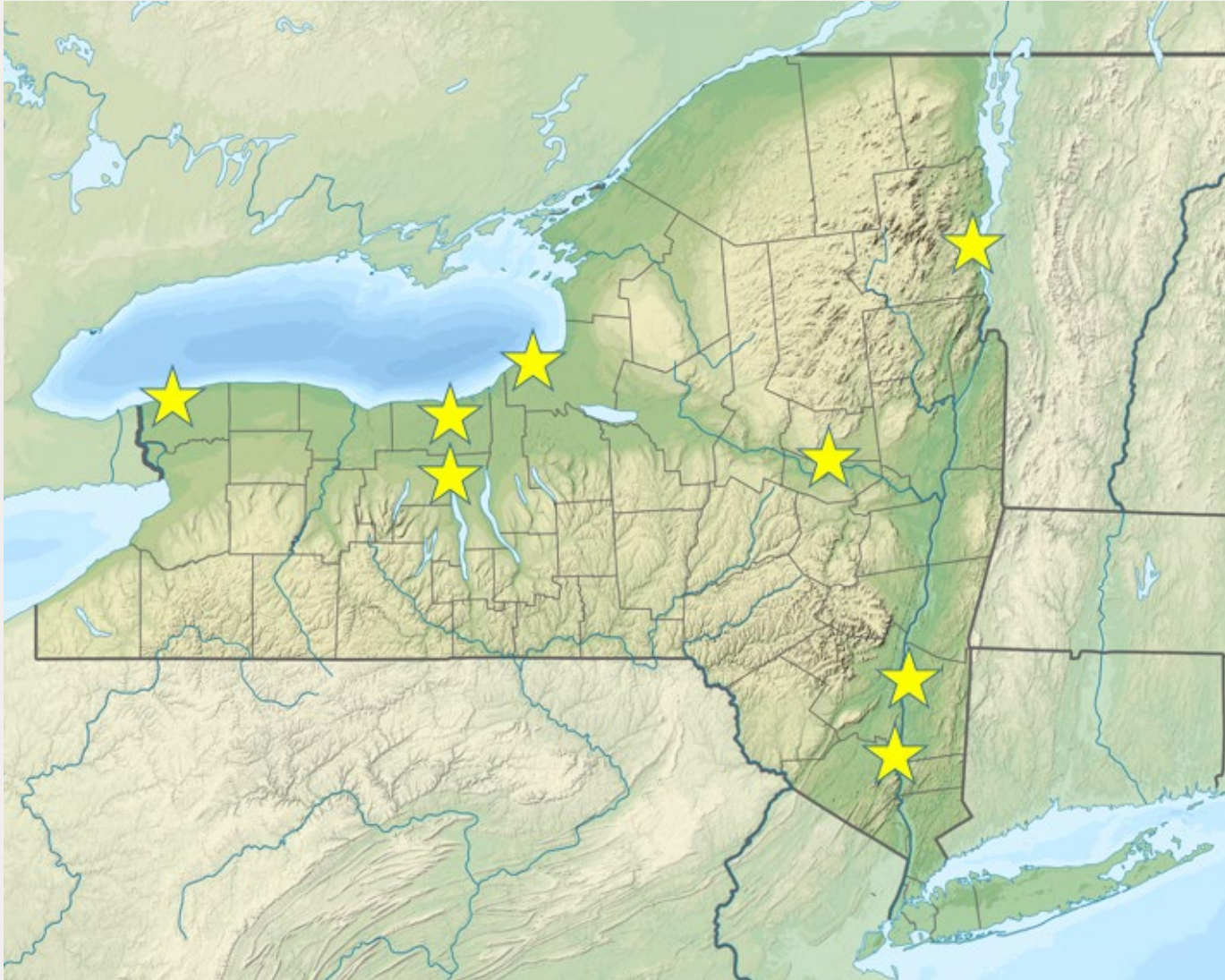
Do monitoring traps reflect damage potential?

# Site Selection

- Blocks suspected to have high damage
  - Late harvest susceptible varieties
  - Honeycrisp lineage
  - Edge bordering on woodlot
  - History of damage or suspected damage



# Map of 2022 bmsb research sites





# Damage Assessments

- Collect 200 fruits from near the traps, throughout the canopy
- Count # of stink bug blemishes per fruit
  - At harvest
  - After 5wks in storage



# Percent fruits with BMSB damage

<u>County</u>	<u>immediate</u>	<u>stored 5wks</u>
Dutchess	45	53
Ulster	17	16
Montgomery	3	3
Essex	0	1
Niagara	15	4
Oswego	4	4
Wayne	9	5
Ontario	8	11

# Damage potential – findings to date

- 0-50% fruits damaged in “high risk blocks”.
- Damage worst in Hudson valley, followed by WNY
- Very little damage seen in Champlain region
- Surface level damage is **not** more commonly seen after storage (colleagues have suggested need to peel every fruit next year)

Objective 1:

How much damage might we see in NY orchards?

Objective 2:

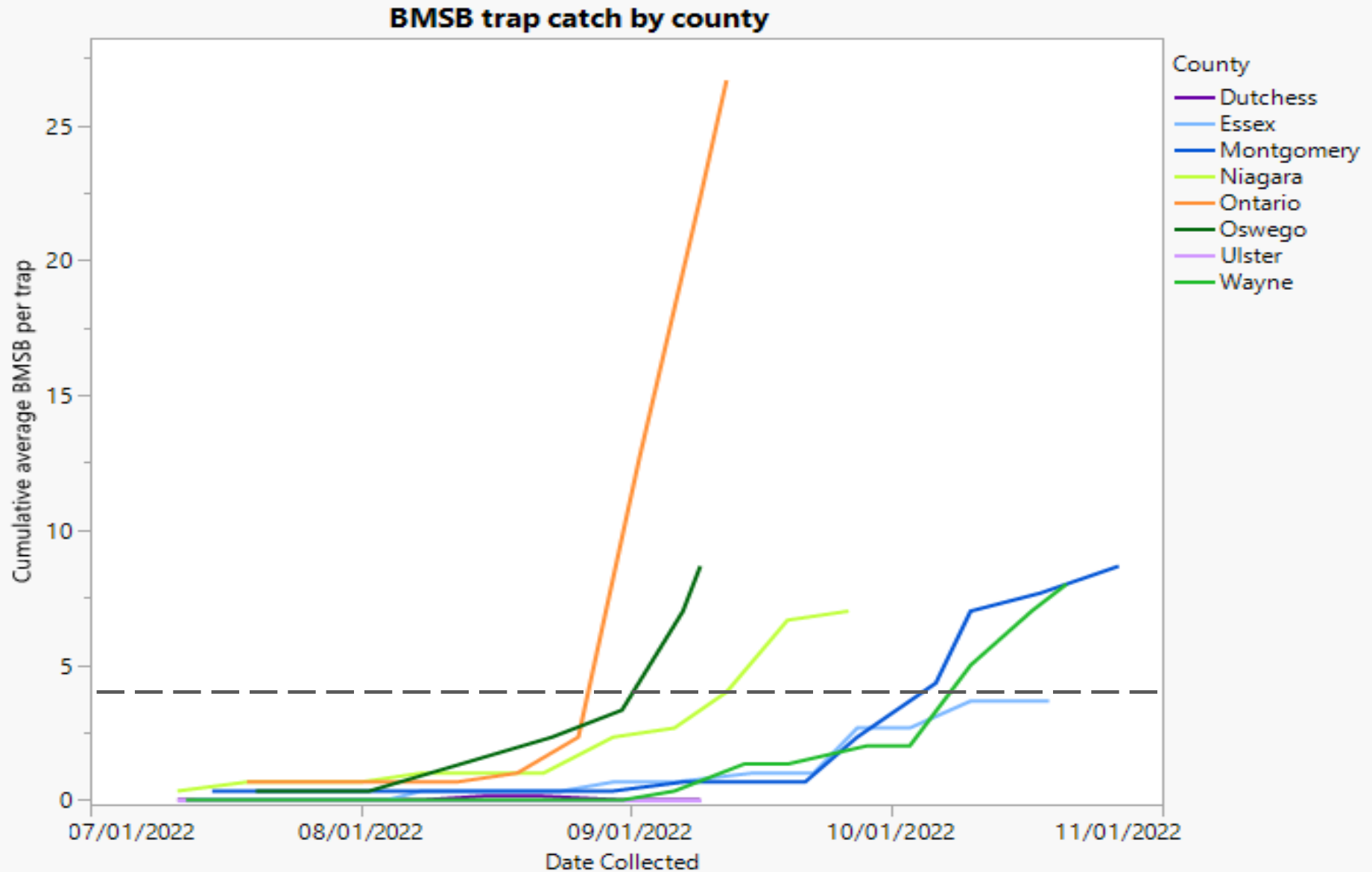
Do monitoring traps reflect damage potential?

# Monitoring methods

- Three clear sticky traps along wood edge
- Dual BMSB / GSB lure
- Check traps weekly from June till harvest



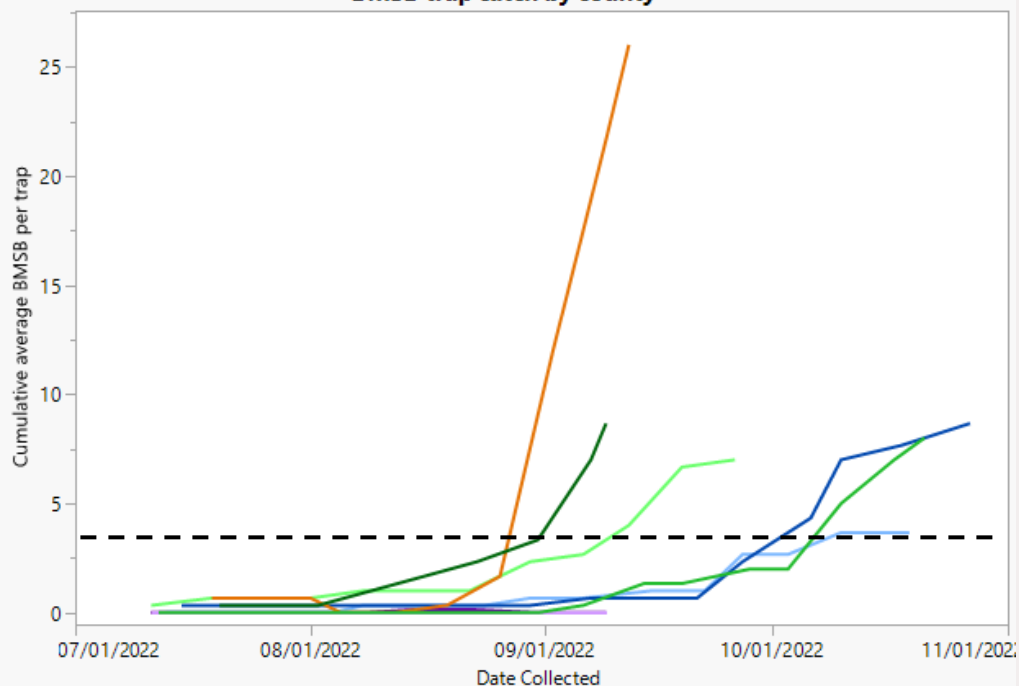
# Cumulative monitoring catch



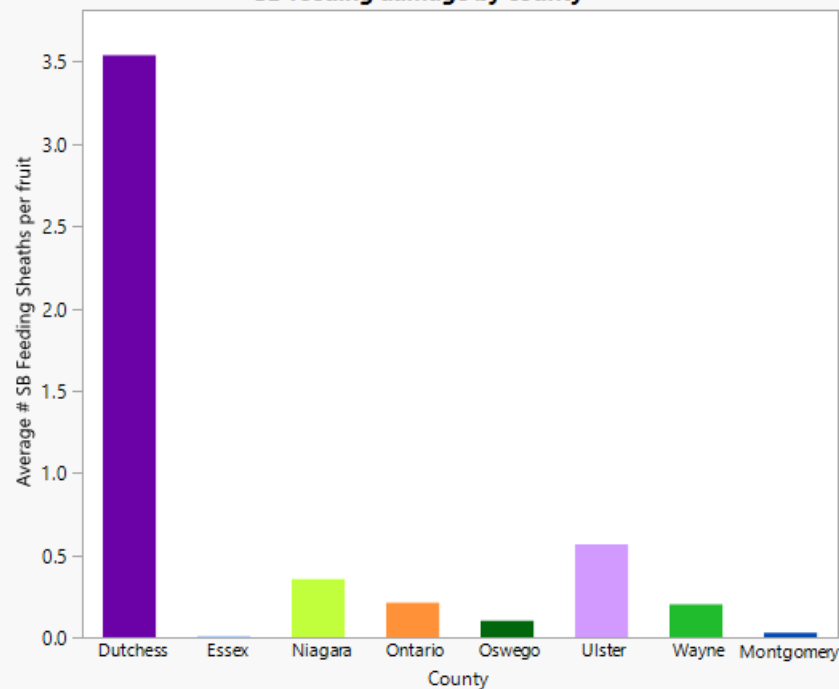


# Trap catch vs damage

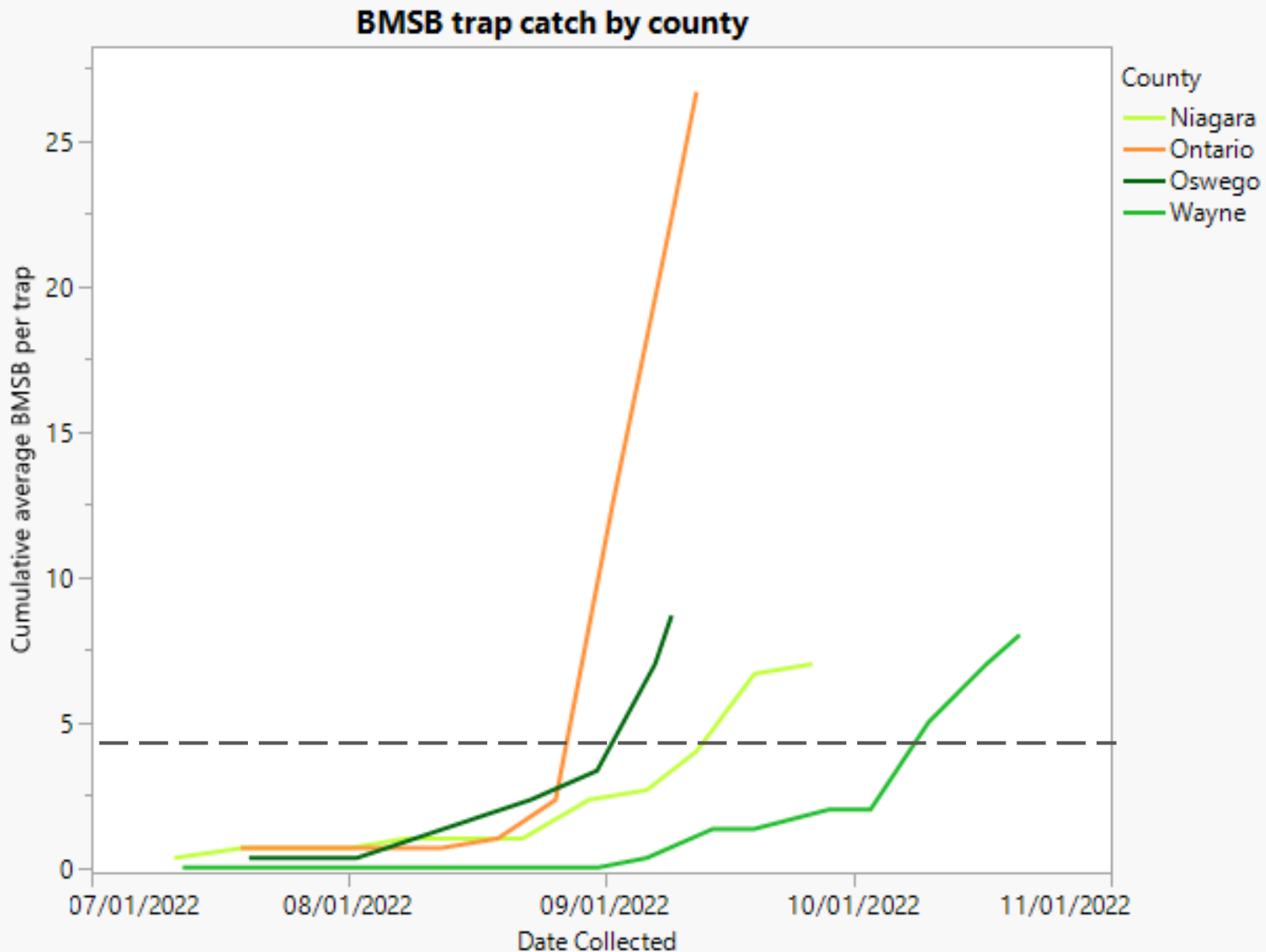
BMSB trap catch by county



SB feeding damage by county

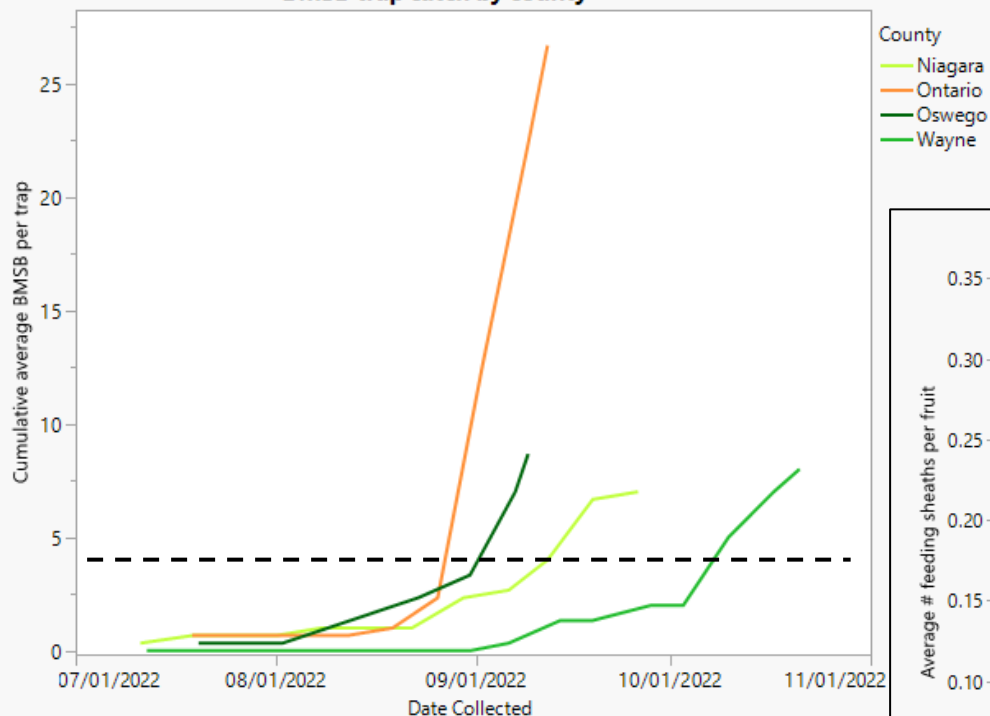


# Cumulative monitoring catch

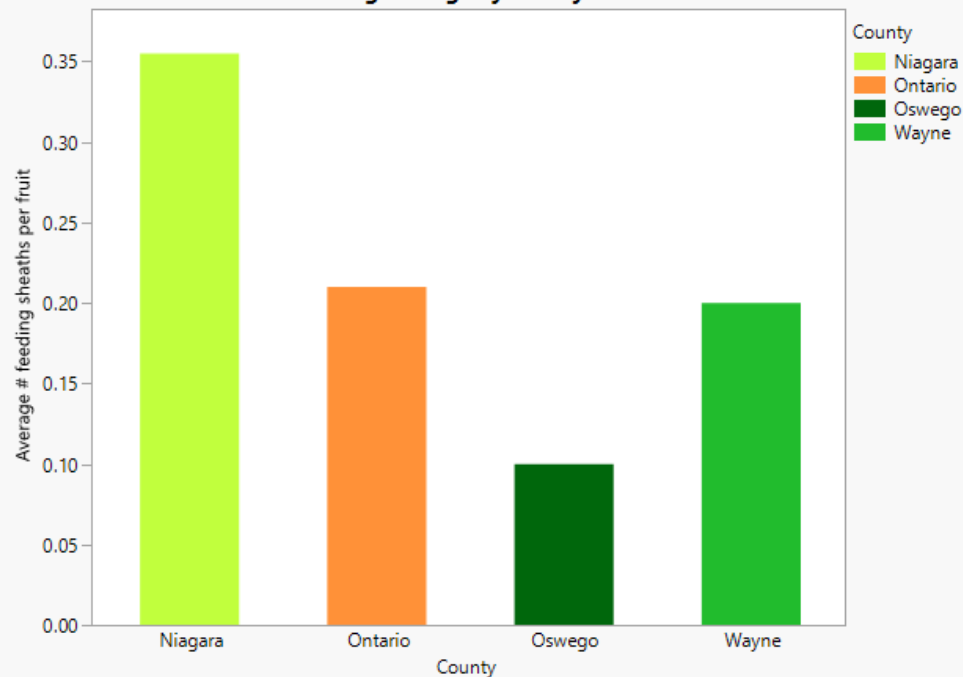


# Trap catch vs damage

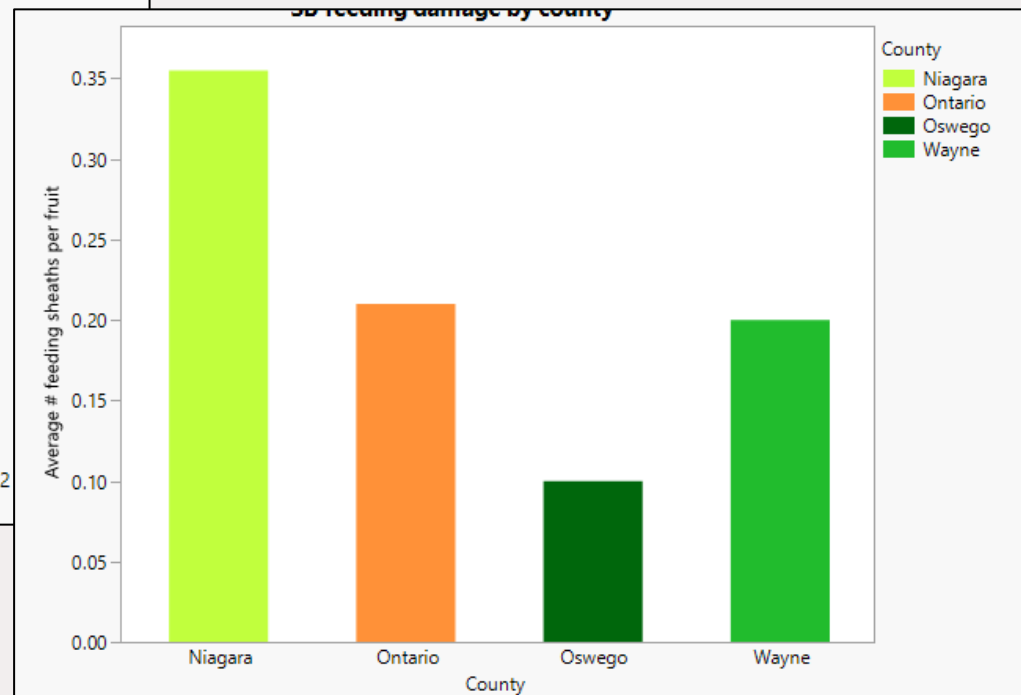
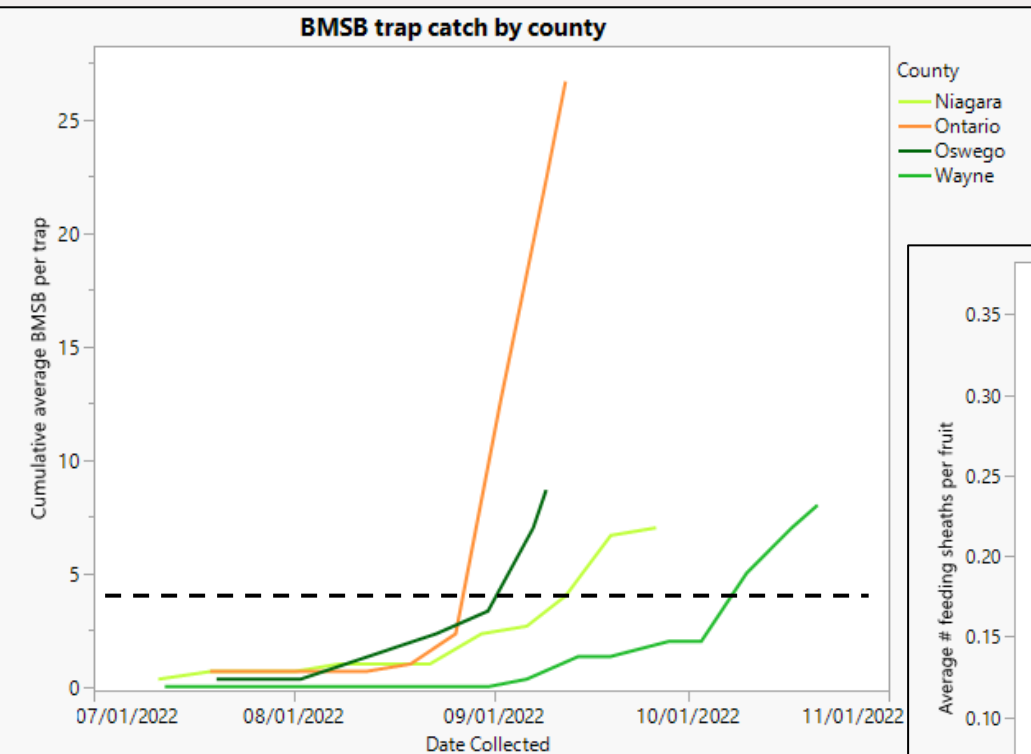
BMSB trap catch by county



BMSB feeding damage by county



# Trap catch vs damage



But, there were differing spray schedules in these blocks

# Summary – findings to date

- Monitoring traps caught most bmsb in Ontario co, followed by WNY and Champlain valley
- Doesn't seem to correlate to damage
- Hope to follow up with paired sprayed vs unsprayed block study, to more directly address whether monitoring traps correlate to damage potential.

# Management options

- Landscape level pest – constantly moving in from woods
- a.i. **bifenthrin**, thiamethoxam, methomyl  
(**Brigade**, Actara, Lannate)
  - All 14+ days PHI
- Anti-feeding product:  
    biopesticide Venerate (0 day PHI)
- Perimeter sprays have very good efficacy



# Thank you!

- to the ARDP for funding this project
- to Monique Rivera, Dan Donohue, Mike Basedow, and many technicians and grower collaborators who helped in this research
- Questions?

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